Listing of Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Original) A test system including a generator for generating an agile frequency test signal for testing a test radio where the test radio has specifications for operating in a communications system comprising,

a signal component source for providing signal components including test parameters and including a test sequence and test symbols derived from radio transmissions of the communications system,

a signal generator for digitally processing the test sequence, the test symbols and test parameters to form an agile test signal,

a transmitter for transmitting the test signal to the test radio.

2. (Original) The system of Claim 1 wherein the test system extracts the signal components from the transmission of a transmitting radio for the communications system.

3. (Original) The system of Claim 2 wherein the transmitting radio is the test radio.

4. (Original) The system of Claim 2 wherein the transmitting radio is different from the test radio and wherein the test radio has the same specifications as the test radio.

5. (Original) The system of Claim 1 wherein the component source includes a memory for storing digital values of the signal components.

6. (Original) The system of Claim 1 wherein the test sequence is a hopping sequence and the test radio is a frequency hopping radio.

7. (Original) The system of Claim 6 wherein signal hop frequencies and message symbols are extracted from the transmission of a transmitting radio for the communications system.

8. (Original) The system of Claim 1 where the test signal is generated as an analog signal with a digital to analog converter.

9. (Original) The system of Claim 8 where the analog signal is up-converted to a higher frequency for transmission to the test radio.

10. (Original) The system of Claim 1 where the test radio is monitored to determine performance in response to the agile test signal.

11. (Original) The system of Claim 1 where the test signal is transmitted by a transmit antenna to a receive antenna of the test radio.

12. (Original) The system of Claim 1 where the test signal is transmitted by a transmit wired connection to a receive wired connection of the test radio.

13. (Original) The system of Claim 1 where interference signals are added to the test signal.

14. (Original) The system of Claim 1 where noise is added to the test signal.

15. (Original) The system of Claim 1 where a signal amplitude of the test signal is faded.

16. (First Amended$_A$) A test system including a generator for generating an agile frequency test signal for testing a test radio where the test radio has specifications for operating in a communications system and wherein said test radio is a frequency hop radio comprising,

a signal component source for providing signal components including test parameters and including a test sequence and test symbols derived from radio transmissions of the communications system,

a signal generator for digitally processing the test sequence, the test symbols and test parameters to form an agile test signal and where said test signal is generated with a set of specified signal parameter values, a sequence of hop frequencies and message symbols that produce a known output from the test radio when the test radio is operating properly,

a transmitter for transmitting the test signal to the test radio.

17. (Original) The system of Claim 16 wherein the component source extracts the signal components from the transmission of a transmitting radio for the communications system.

18. (Original) The system of Claim 16 wherein the transmitting radio is the test radio.

19. (Original) The system of Claim 16 wherein the transmitting radio is different from the test radio and wherein the test radio has the same specifications as the test radio.

20. (Original) The system of Claim 16 wherein the component source includes a memory for storing digital values for the signal components.

21. (Original) The system of Claim 16 wherein the test sequence is a hopping sequence and the test radio is a frequency hopping radio.

22. (Original) The system of Claim 16 where signal hop frequencies and message symbols are extracted from the transmission of a transmitting radio for the communications system.

23. (Original) The system of Claim 16 where the test signal is generated as an analog signal with a digital to analog converter.

24. (Original) The system of Claim 23 where the analog signal is up-converted to a higher frequency for transmission to the test radio.

25. (Original) The system of Claim 16 where the test radio is monitored to determine performance in response to the agile test signal.

26. (Original) The system of Claim 16 where the test signal is transmitted by a transmit antenna to a receive antenna of the test radio.

27. (Original) The system of Claim 16 where the test signal is transmitted by a transmit wired connection to a receive wired connection of the test radio.

28. (Original) The system of Claim 16 where interference signals are added to the test signal.

29. (Original) The system of Claim 16 where noise is added to the test signal.

30. (Original) The system of Claim 16 where a signal amplitude of the test signal is faded.

31. (Original) A test system including a generator for generating an agile frequency test signal for testing a test radio where the test radio has specifications for operating in a communications system comprising,

a receiver for receiving a frequency hopping radio input signal transmitted in the communications system, said input signal having segments at different hopping frequencies and different hopping times,

a broadband processor for processing said input signal to determine signal components, and for each segment,

determining from the input signal a hopping time of the segment,

determining from the input signal a frequency of the segment, and

determining signal parameters,

a signal component memory for storing said signal components including a test sequence, test symbols and test parameters,

a signal generator for digitally processing the test sequence, the test symbols and test parameters to form an agile test signal,

a transmitter for transmitting the test signal to the test radio.

32. (Original) The system of Claim 31 where said processor extracts message symbols from said input signal.

33. (Original) The system of Claim 32 where the message symbols are extracted from each hop.

34. (Original) The system of Claim 31 where said processor extracts a carrier frequency from each hop

35. (Original) The system of Claim 31 where the test signal from said signal generator is processed with a digital to analog converter to form an analog test signal.

36. (Original) The system of Claim 35 where the analog signal is up converted to a higher frequency for transmission to the test radio.

37. (Original) The system of Claim 31 where the test radio is monitored to determine performance in response to the test signal.

38. (Original) The system of Claim 37 where the test radio performance is determined by an operator manually.

39. (Original) The system of Claim 37 where the test radio performance is determined with an automated system.

40. (Original) The system of Claim 31 where interference signals are added to the test signal.

41. (Original) The system of Claim 31 where noise is added to the test signal.

42. (Original) The system of Claim 31 where a signal amplitude of the test signal is faded.